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ABSTRACT

This study describes and explains changes in ninth- and tenth-grade social studies and science courses that emerged in the pedagogy of classroom teachers as a result of participation in a detracking project in an urban high school. The detracking project represented a profound change in the organization of school curricula. Four social studies and four science teachers, and 84 students in 12 classes, 4 college preparatory, 4 untracked, 2 advanced placement, and 2 lowest classes, participated. Qualitative research methodology was used by two researchers independently of each other. They triangulated their data by using descriptive journal entries of classroom interactions, detailed records of interviews and conversations, and specimen data such as lesson plans. The pedagogic factors that emerged as important in the quality of instruction were: (1) teacher- or student-centered instruction; (2) cooperative learning or individual student work; (3) strategies for questioning; (4) verbal interaction in the classroom; and (5) evidence of process skills such as critical thinking or writing. Teachers began to change their practices, using more cooperative learning and more student-centered approaches. Teacher expectations of students of initial lower tracks rose, and teachers cooperated more fully with each other. The changes teachers made for these untracked classes affected their teaching overall. (SLD)

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Changes in Pedagogy:

A Qualitative Result of Teaching Heterogeneous Classes

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Introduction

This study describes and explains changes in ninth and tenth grade social studies and science courses that emerged in classroom teachers' pedagogy as a result of their participating in a detracking project in an urban high school. Tracking had been an established policy for many years, and it included the regular use of standardized ("Regents") tests that the State Education Department routinely used to compare school districts, schools and classes. The detracking project represented profound change in the organization of school curricula. Prior to the project there had been three academic tracks in the school: an advanced "extension" track, the college preparatory "regents" track, and a low or "school" track. This project added a fourth, an untracked group composed of students previously from the other three groups. Promising community leaders, parents, teachers and students that the quality of education for all students would improve and be enriched through detracking classes, the school district offered families the choice of whether to send their children to the tracked or untracked courses.

The surrounding area of this city in the Northeastern United States was rural and quite homogeneous with respect to culture and ethnicity. All the teachers in this study lived in the school community. The area was economically lower to middle class and has lost major manufacturing jobs in recent times. Because of the predominant homogeneity of the school community, changes

in teaching were perhaps more readily observable than in environments that contain more complex variables concerning tracking. In this school, issues of rascism, socio-economic status, and ethnic conflicts were far less present than in many schools where tracking and detracking may be a highly charged battleground. Such relative simplicity allowed us to focus on the developments in the teachers in this project.

The topic of academic tracking is a typically knotty problem for educational research: large-scale statistics with conflicting results; lots of debate over the societal implications; important classroom group, individual and community considerations; and few smaller studies on specific variables. There are many positive research reports of student achievement in both accelerated tracks and mixed ability classes; and there are also reports of widening gaps among higher and lower tracks over time in school (Alexander, Cook, & McDill, 1978; Ball, 1981; Oakes, 1985; Slavin, 1987; Wheelock, 1992). At the same time, multi-level ability grouping and tracking remain pervasive in many public secondary schools throughout the United States. Much of the research, both qualitative and quantitative, is difficult to evaluate because of the complicated and tautological nature of the questions. That is, the achievement results of tracking are a case of within-school differences, track by track. But differences in achievement are themselves the bases of tracking. Gamoran and Berends (1987) have pointed out that several studies which control for pre-tracking achievement levels show few

differences in outcome achievement among tracked and untracked students (Alexander and Cook, 1982). In other studies, however, even with these statistically controlled factors, there are greater differences among upper-, lower-, and non-tracked students, both in specific subject matter achievement (Gamoran, 1987) and in college and later educational attainments (Alexander et al, 1982; Hotchkiss & Dorsten, 1987).

Another serious problem about studying differences among tracked and untracked classes is pervasive mediocre, passive, uninvolved teaching and learning in most secondary classrooms, regardless of track (Oakes, 1985; Sizer, 1884). These factors contribute a confounding variable in research because lower and upper tracks all have shared unfortunate pedagogical practices.

Three overall questions formed the structure for our observations:

1. What are the salient factors observed in differences in instruction in tracked and untracked classes?

2. Which of those teaching and learning factors are most affected by teaching in tracked vs untracked classes?

3. How are process skills such as writing, verbalizing and critical thinking affected by detracking?

The subjects of this study were four social studies and four science teachers and 84 students in twelve classes: four college preparatory, four untracked, two advanced placement and two lowest classes. Students and their parents were invited to volunteer for the project. In Earth Science, 49% of all the

students volunteered to participate; in ninth grade Global studies, 46%; in Biology, 56%; and in tenth grade Global Studies, 56%. The volunteer teachers taught both tracked and untracked classes after receiving workshop training in cooperative learning in Kagan's (1992) teaching methods. In this study, teachers and sophomores were in their second year of the project but the freshman students were in their first.

Qualitative research methodology was used by the two observers independently of each other. The researchers each completed a minimum of eight days of classroom observations, approximately 106 hours each, in observing in both tracked and untracked classes. Each researcher prepared detailed field notes using a constant comparative method. The researchers observed independently of each other and then compared and contrasted their analyses.

We assumed roles of non-participant and participant observers throughout the research project. One of the researchers held to the non-participant role throughout the study. The other researcher participated more actively by conducting two after-school focus groups with the project's teachers. This researcher also taught several lessons in the Global Studies classes in which she shared photography and discussion of her recent trip to Southern Africa. In addition to preparing descriptive observations of the project, she also prepared a unit for the social studies teachers for the purpose of helping them to individualize for a wider range of students and to develop

students' thinking skills. Our use of both non-participant and participant observer research roles allowed us to obtain insights into the classroom teaching that could not have been obtained from either perspective alone.

The primary goal in data collection and analysis was to obtain descriptive validity. We were aware of our ideological and pedagogical preferences for the untracked classes and realized the need to control any influence our biases might have on our research. To help assure descriptive validity we triangulated our data by using the following sources: 1) descriptive journal entries of each of our classroom observations; 2) detailed records of conversations and interviews with students and teachers; 3) specimen data such as written lesson plans from teachers, classroom assignments, handouts and unit study guides.

We tested our classroom observations and insights with one another to further ensure descriptive validity. At the midpoint in the study we discussed and shared our observations. We questioned one another for specific supporting evidence for the observations and inferences each of us made. Whenever an inference could not be corroborated with multiple sources of information, the researcher withdrew the interpretations of it until more support could be found. In some cases when we returned to observe again, we looked for confirming evidence of what we had previously described and inferred.

Results Summary

Quantitative results of the first year of detracking were

available soon after the qualitative study began. During the first year, academic achievement results were positive, with 25-30% of previously lower track students passing the Regents (higher) track examinations in the courses, a test they would not have been allowed to take before. The previously homogeneous (Regents) group passed at the same rate as earlier students in the college preparatory track. Attendance records of previously lower tracked students improved significantly ($p = <.01$) during the first year.

We were surprised when attempting to respond to our research questions. For question 1, there were identifiable factors contributing to quality of instruction which we will describe and discuss, but the evidence regarding question 2, learning and teaching factors affected by teaching in tracked vs untracked classes, led in an entirely different direction. That is, in the fall semester initial observations, we saw virtually no differences in teaching among the advanced, college preparatory and untracked classrooms. Although the classroom teachers had been trained in cooperative learning, there was little evidence of this. The small examples appeared to be done explicity for our observations. Indeed, the striking issue that emerged was the degree of indifferent instruction that took place in the untracked and tracked classes. The overall emphasis was on delivery of textbook material to be memorized in some form by the students for recall on future tests. Classroom instruction seemed the same in the upper groupings with little or no

attention paid to teaching models or strategies. In the lowest tracked classes, learning and teaching were the same throughout the year and markedly poorer than in the other classes. And in response to question 3, little attention was paid throughout the project to process skills, although some change in types of questioning was evident through the year. The pedagogic changes that were observed are briefly outlined in Table I to assist the reader in following the narrative.

[Table about here]

Teaching and learning factors contributing to the quality of instruction in tracked and untracked classes

The pedagogic factors which emerged from our data and appeared important in the quality of instruction were the following: teacher-or-student-centered pedagogy; cooperative learning or individual student work; strategies for questioning; verbal interaction in the classroom; individualization for particular needs or capabilities; and evidence of process skills such as critical thinking and writing. Each of these factors will be addressed with descriptive data.

1. Teacher-or-student-centered pedagogy

In the fall all the classes were primarily teacher centered. Teachers used a direct presentation model almost exclusively: introduce a motivating idea or set, present the material, ask students content questions, and then have students engage in a practice activity, either guided or not. Even in one example of roleplaying observed (roles of differing points of view in

Gandhi's India), the teacher controlled all aspects of the activity - timing, scripts for the roles, people who took the roles, question and answers following the activity, summarizing the deductions from the roleplay.

Science teachers required both tracked and untracked students to write notes from classroom lectures and textbooks, listen attentively to classroom presentations and to participate individually in laboratory activities using a workbook. Their primary form of teaching was lecture/recitation. At the most extreme, one science teacher used oral presentation of information through a double class period (intended for a lab), for a total of 63 minutes out of 80.

Through the second group of observations in the spring, it was clear that the teachers had changed. Although individualizing for students still did not occur, many of the teachers had introduced change in their teaching strategies, change which resulted in improved learning. A majority of the teachers were using cooperative learning and therefore, the classes were less teacher-centered. Because of the different model, the teacher's place was moving from the front of the room to guiding groups in their work throughout the classroom space. By spring, most teachers allowed or encouraged students to work with each other and then to report to him/her or to the class. Since groups were working together on similar problems, they were more likely to share with one another than always to direct content through the classroom teacher as in the past. Therefore,

even in a less group-oriented activity like filling in a timeline, students shared discoveries with one another without teacher interference.

2. Cooperative learning or individual student work

During the fall, choices among work and assignments was very limited in all of these classrooms. In an attempt to treat everyone the same, nothing was offered except the traditional: read the text, read questions and write answers from the end of the chapter, discuss same in class. Each teacher knew the particular text extremely well; in one case the teacher often directed students to particular pages, without notes. This same teacher gave "pop" quizzes on selected homework answers which were directly taken from the text.

In the beginning of the school year one of a social studies teacher's lessons displayed a difficulty that he was having with pedagogy. He engaged students in a cooperative learning activity which had nothing to do with his curriculum, on the day the observer was there. He began by saying, "Today we are going to read a short article about school uniforms...read it, form your opinion, and then in small groups decide what it should be. I want you to list at least three advantages to (school) uniforms; why yes, why no, but still give three advantages. And write a short paragraph about your feelings and three advantages for wearing uniforms in schools." The students then silently read and worked in small self-selected groups to complete the assignment. The teacher then led a discussion of the content of the

newspaper article by saying, "OK, what's the purpose of the article?" The teacher continued with a series of questions, e.g. "Who thinks it is a good idea? What did you come up with? Does anyone have other viewpoints? Who doesn't want it?" The teacher concluded with saying, "OK, there are about 23 people in this class who say they would not like to wear uniforms to school." After this activity the teacher told the students to open their textbooks and complete a practice test on the unit they studied. Perhaps the teacher used the cooperative learning to teach students to work collaboratively to form opinions and write about them, but he did not tell either the observer or the students that goal. We suspect his use of cooperative learning at the time reflected a general confusion about how the method could be used to help students to learn the curriculum.

As the year progressed, many of the teachers became more knowledgeable and comfortable with how to use cooperative learning. These teachers implemented the method in a variety of ways to suit their students' learning needs. Some of the uses of cooperative learning that we observed in the spring were the following:

- in a untracked biology class groups of students and labeled the interior and exterior of blood vessels;

- in another untracked biology class pairs of students shared turns at studying and answering study guide questions about the respiratory system;

- in a untracked earth science class small groups of

students went outside to calculate circumference of small globes and measure shadow angles from the sun;

- a social studies teacher had her students in college preparatory and untracked classes form groups of three to brainstorm the qualities of good essay writing and share their writing with another; later in the same lesson these triads brainstormed a group position about the disadvantages and advantages of living in Sparta or Athens (we noted the similarity to the "school uniforms" activity, but this time curricularly based).

- another social studies teacher used partner work in both her college preparatory and untracked classes to complete a table illustrating key political positions of the United States and the USSR at the beginning of the Cold War.

A striking change took place with two of the four social studies teachers over the school year. By spring, two of the teachers were experimenting with definitive models of cooperative learning, and the results were dramatic, both to them and to the authors of this study. By definitive, we mean that the two teachers carefully planned their cooperative learning according to a specific model, in one case Slavin's co-op/co-op model (1990), a rather complicated model to apply. This plan was observed in three classrooms, two untracked and one college preparatory track. In each case, the lessons were highly successful in the following ways:

- students were consistently on-task

- students demonstrated knowledge of the content verbally and later in writing

- everyone enjoyed the material

- discussion was on several cognitive levels, from knowledge to comprehension to analysis and even synthesis since there was some creative roleplaying involved where all levels were used by the students.

In another class, triads of students developed a group position about the advantages and disadvantages of living in Sparta or Athens. In the science classes cooperative activities took other forms: groups of students drew and labeled the interior and exterior of blood vessels; and in both biology and earth science, groups collaborated on answering study guide questions with one another. The changes in pedagogy did not all occur solely in the spring. In a September earth science heterogeneous class, small groups of students went outside to calculate circumference of small globes and measure shadow angles from the sun.

On the other hand, in the science classes the teachers differed strongly in their pedagogy and some displayed few changes. One teacher used lecture and closed questioning almost exclusively. In May this teacher introduced a new unit on earthquakes, orally presenting information throughout the double science period as her students took notes about what she said. The teacher identified and explained new vocabulary and concepts, provided visual displays on the overhead project and presented a

cardboard model to display gelogic shifts in the earth. She frequently asked questions to students such as the following: "What is an earthquake?"; "What are faults?"; "Where do you find earthquakes?" The teacher then wrote the most acceptable answer on the transparency.

But another science teacher, the chair of the department, revealed how she believed the detracking project changed her classroom pedagogy. The project, she explained, "has really changed my teaching methods;" She still "present(s) new concepts through presentation and lecture", but when she wanted students to manipulate concepts, she used cooperative learning. The chairperson also believed that she used the same pedagogy regardless of a classes tracked or untracked.

Perhaps more important than the changes in herself, this teacher also mentored a student teacher from a nearby university. The effects of her beliefs about classroom pedagogy were evident in the student teacher's methods. Almost all of the student teacher's laboratory time was used for small group learning activities. One lesson was characteristic of his teaching: the lesson began with the student teacher briefly reviewing homework by writing vocabulary items on the chalkboard (plasma, red blood cells, white blood cells and platelets) and then describing the task, "draw on paper and make a representation of an actual blood vessel." Students then worked in small groups illustrating and labeling blood vessels, and, before the period ended, each group orally presented their drawings to the others. When asked about

the activity, he stated that his mentor suggested it. He further explained that he sometimes "scaffolded" differently to provide more instructional support for students needing it. As an example of this he said he wrote the vocabulary on the board for students who needed more explicit review of the homework.

3. Strategies for questioning

There was a tendency in the fall in the untracked classes to lower the overall level of teaching rather than either to diversify the presentation or risk being too challenging. This was most manifest in the types of questions asked which were very specific and text bound. All the teachers used questioning and recitation as a constant technique in class. Overall the teachers and students seemed to be totally text and test bound. Questions were almost always factual even when they appeared to be higher order, that is the students appeared to think there was a right answer (e.g. "how do you think that women felt about democracy in ancient Greece?"). However, students were interested and lively in the discussions, even when they thought they were just trying to find a "correct" answer.

By the spring, three of the four social studies teachers endeavored to ask higher order questions consistently in untracked and higher level classes, in another development of teaching strategies. Some questions of this type were: "How did you feel when you took the part of the farmer [aristocrat, ruler, revolutionary, businessman]?", and "Can you see what these factors [leading up to WWI] might have in common?". These were

challenging for the students, clearly. Looking back at responses to earlier questions, as in the previous paragraph, it appears that the students were quite ready for the challenge.

4. Verbal interaction in the classroom

Although the observers thought this category was significant in the instructional quality of the classrooms, it appears after analysis to be primarily an artifact of other factors such as teacher-or student-centered pedagogy or individual vs. group work. For the most part the teacher-student and student-student interactions throughout the classes were remarkably similar throughout the observation period. This is not especially surprising since being consistent in classroom interactions was one of the teachers' goals. Differences were slight and only appeared after we repeatedly analyzed the data from many perspectives (questions and answers, class discussions, initial teacher-student contacts, student questions). Students in all types of groups participated cooperatively and respectfully, but the untracked students displayed greater eagerness and excitement, which may have occurred because they had more opportunities to interact as cooperative learning increased. One teacher commented about the degree of "socialness" of her classes and two other teachers remarked that cooperative learning worked best with the untracked classes. These points of view may have affected the classroom interactional differences.

As the year progressed, all the upper and untracked classes indicated greater interaction and more open ended interaction.

That is, more students began sentences with "I (we) think... I wonder... I would like to know...". And of course, with more student centered activity, there was more overall interaction.

5. Process skills such as critical thinking and writing

In the fall, reading and writing choices were non-existent. No alternate reading or possibilitites of outside reading (for example, fiction or primary documents) were apparent. The few small exceptions, a small role play in two classrooms and a movie, were treated by students as though they were text-based assignments to which right and wrong answers are imminent. As described earlier, questions were textbased and closed.

In the spring, examples of newer pedagogic approaches were developed as offshoots of cooperative learning. One teacher used cooperative learning in a variety of ways by having students form groups of three to brainstorm the qualities of good essay writing and share their writing with one another. Later the same groups discussed the essay questions verbally. Such approaches may eventually have led to students being able to view writing as a tool for thinking.

As seen above, teachers also were endeavoring to question at higher levels as well. Therefore, at least the process skill of thinking verbally was addressed more directly by the spring. However, in terms of the question of how writing skills were affected by untracked grouping, the answer was unclear, although at least one teacher began to address writing more directly (see above). Students who were writing at different levels of

capability did not, however, have the opportunity to work with the teacher about his/her writing. Nor did they still practice writing for anything but factual essay responses on tests. The teachers were concerned about students' writing capabilities but addressed it only as assignments for essays. Differentiation of the curriculum or assignments was not considered. This issue of writing is a serious and difficult question to pursue in future research.

Another related category of the observations was the treatment of exceptional students in the untracked classes. Initial observations suggested that neither very able nor disabled students received any individualized instruction for their learning needs. Observations throughout the year confirmed this, with the possible exception that in one college preparatory class an aide (the assistant basketball coach) had been assigned to take notes for a highly verbal student who had poor visual-motor coordination. The teacher often called on this student but that appeared to be because the student always raised his hand.

One hypothesis was that the classroom teachers, who were experts in their subject areas, were still new to the diversity of student capabilities in more heterogeneous classes and these teachers had not learned to modify their pedagogy for students with specific learning needs. However, when the teachers discussed the unit prepared for them by one researcher, they presented a different view. They acknowledged the applicability

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and value of the assignments, or choices of assignments, but felt universally that such planning was far too time-consuming for teachers. In saying this, they also discussed what they perceived as a lack of moral support and acknowledgement of their work and commitment from the administration and community. They said this type of differentiated planning would neither be acknowledged nor appreciated by faculty and parents, although they said it would be by students.

Factors particularly affected by teaching in tracked and untracked classes

This research question has gone through several permutations. Initially we thought this would have relatively simple answers, such as differing teacher-student interactions and degree of students' verbal abilities, perhaps different teacher expectations, or even a general lowering of task level. However, our first observations revealed none of these clearly. As previously described, the classes, including both pedagogical and social factors, appeared to be both similar and unexciting.

But in the last analysis, it appeared that many factors had been affected by the fact of change, in most of the classes. Although the quantitative gains appeared to be real, that is, previously lower tracked students often achieved more, college preparatory students achieved equally, and the students enjoyed the untracked classes, our observations indicated a further and different result. Teaching and quality of instruction changed in all but the low tracked classes, apparently as a result of the

process of detracking. In all of these pedagogical factors, the teachers changed in the college preparatory, advanced and untracked classes.

The lowest track

The most striking observed differences were evident within the school level, (the "lowest track"). In the school track the presentations and the work were presumably the same, but they were not - not fun, not interesting, not learned, not even especially graspable. Why? Because teachers did use the same basic teaching plan, but slowed, diluted, shortened. It first appeared that the students had trouble changing subject matter contexts , but the observation was difficult to validate because the subject matter in the class was so truncated. The material became more abstract because of shortening it and trying to simplify it.

To demonstrate this problem with an example, one teacher characteristically put notes for all classes on a transparency. At the end of the class period, he used the overhead to show them the notes. Most classes simply wrote down everything on the overhead. Characteristically, he prevented them from writing all the time by advancing a piece of paper down his transparency. This teaching strategy occurred in all his classes, tracked and untracked. Many students simply waited until it made sense and then wrote it all, rather than doing it sentence by sentence. (The observer tried to act as a student doing this and found that the material only made sense if one waited until the total page

of notes was showing).

However, the lower tracked students were only allowed to see one sentence or phrase at a time. He told them "at least" to copy the underlined words and the whole sentence if they had time. Therefore the students wrote only the underlined words (the whole class was observable by the researcher). *Imperialism* was the first underlined word. The teacher asked what it meant and no one answered. He asked if they remembered where they had heard of it, and the librarian who was assisting in the class said it was "on the last test as the word *imperialist*". Then a student said, "Oh, yes, China!", pleased to remember. Teacher said, "well yes, but other countries came to China as imperialists. That's what we were studying then" (underlining for verbal emphasis). "Imperialism means a stronger country takes over". (No one wrote this definition down, nor did he tell them to). There was no further explanation of China either as an imperialist country or as a colony of another imperial power. Thus, an abstract concept was reduced to a short sentence definition, with virtually no teaching or understanding attached to it.

On the question of individualization, one observation was particularly revealing for students having specific learning needs. The lowest ninth grade science class contained several students who previously failed the course, some even twice. This class contained several students identified as having specific learning disabilities. The school had assigned a "collaborative teacher" to teach with the regular teacher. The class proceeded

in the following way: the regular science teacher told his class of eighteen students, "take out your packets folks, and read for me, silently, the last two pages." The collaborative teacher stood at the far side of the room and he said a little louder and more slowly: "The page you should be on is the one with the illustration of the ruler". All the students then silently read the two pages, and as they did so, the two teachers conferred in the front of the room about whether to use the overhead projector or chalkboard for the next task. Taped to the chalkboard was a vertical cardboard measure displaying feet and inches that the students would use to record their physical heights. Next the classroom teacher explained to the class they would take turns measuring one another's height and recording those heights with their birthdays onto the front chalkboard. A few students asked for clarifications, and the collaborative teacher said in a condescending tone, "Do we have any 21 year olds in here?" (implying many more years of failure). As the students began the assignment, Harold, who sat near the rear of the classroom, displayed difficulty copying from the chalkboard, and asked for help. The collaborative teacher said to the entire class, instead of to Harold, apparently in an attempt to be humorous, "Whatever you have to do, Harold." Harold left his desk and walked to the chalkboard where he wrote classmates' heights and birth dates onto his activity sheet. As students measured one another and wrote their data on the chalkboard, the collaborative teacher left the room, which no one appeared to notice. He had intervened

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minimally and offered no instructional modification for students. The only exception to this was allowing Harold to stand at the chalkboard to complete the activity.

Are the students in lower tracked classes getting better instruction and attention in writing skills? This is an interesting issue, because it is conceivable that attention and time given to the task could improve writing for students having difficulty. On the other hand, we neither saw attention paid to writing nor time spent on writing in lower tracked classes. Indeed, both teachers and students seemed to avoid writing in the low class.

Conclusions

Throughout our initial observations in the fall, the teachers had not noticeably changed their pedagogy from tracked to untracked classes, but gradually they began to use what they had learned as a result of the project. They also appeared to gain confidence in trying new pedagogical approaches. For two of the teachers, their collaboration with each other was particularly important. They said the collaboration was the single most important thing to them about the project and they would continue no matter what happened to the detracking project. This result, the importance and reward of collaboration, is similar to other projects where teachers have reported learning successfully to use new models of teaching (Joyce, Weil & Showers, 1992).

But there is a lot to be made of the changes which occurred

in the process of this study. First and foremost, change in teaching practice occurs slowly, and with great fragility and complexity. Anyone who works with teachers, both in early preparation and successive education, should attend to the factors of this process. And there are corallaries to this recognition and knowledge. First, both external and internal rewards and supports must develop in relation to the work the teachers are doing. In this project the teachers were both rewarded by their work with each other and by their increased expectations of their students.

Having completed these observations, it would seem that teachers' understanding of human beings needs to be more Lockeian and less Hobbseian. That is, their expectations for themselves and their students must be redirected to more neutral or positive ground, less charged with myths and beliefs about past performance. Teachers often appear to assume that teaching is best done in certain set ways for particular groups of students. Such assumptions are neither neutral nor positive.

One obvious conclusion of this study would be a recommendation to abolish "low" tracks and to concentrate on supporting heterogeneous planning with all that entails. A further direction for exploration would be to have advanced placement classes as the only distinction in addition to the heterogeneous classes. Anyone could "audition" for these advanced classes, similar to any other group or club with specified entry levels of performance.

There are many directions in which one can range in such a study - organizational change, school reform, community and school studies, the complexities of school communities, the problems of teaching students beyond the "middle ground". In this particular study, teachers changed their pedagogy for untracked classes, and the changes affected all their teaching. Perhaps this was a chance for trying out notions kept in the back of one's "teacherly mind", ideas learned and thought awhile ago but passed over in daily work. And perhaps it is possible to focus on the notion that one change can beget other changes, in particular stimulating new thoughts, new expectations, new frames of mind in teachers.

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